

REMARKS

In response to the Office Action dated September 7, 2010, claims 1, 18 and 20 have been amended and claims 2 and 4 have been canceled. Claims 1, 3, 5-18 and 20-23 are pending in the application.

In paragraph 4 on page 4 of the Office Action, claims 1-15 and 18-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Eyer in view of Robinett, and in further view of Hendricks.

In paragraph 5 on page 15 of the Office Action, claims 16 and 17 were rejected under 35 U.S.C. § 103(b) as being unpatentable over Eyer in view of Robinett and Hendricks, and in further view of McLaren.

Applicants respectfully traverse the rejection, but in the interest of expediting prosecution have amended the claims.

Independent claim 1 sets forth a plurality of encoding units, disposed within a headend of a distribution system, each of the plurality of encoding units being operative to receive content from a plurality of content sources, the content including a plurality of video inputs, a corresponding IPG page associated with each of the plurality of video inputs, an audio input and at least one data input, wherein each of the plurality of video inputs associated with IPG pages include a guide portion and a video portion, the plurality of encoding units encoding the guide portion and the video portion of each video input associated with the IPG pages, the audio input and the at least one data input and generating a guide stream for each of the video inputs and a video stream, an audio stream and at least one data stream, wherein each generated guide stream, video stream, audio stream and data stream is assigned a respective packet identifier (PID), at

least one transport stream generator operatively coupled to the plurality of encoding units, each transport stream generator being assigned to a single distribution node of the distribution system, each transport stream generator further operative to receive the generated guide stream, video stream, audio stream and data stream from one or more of the plurality of encoding units and to multiplex packets from the received streams into one or more transport streams, wherein the at least one transport stream generator generates packets conveying a program mapping table (PMT) for each transport stream, a session manager coupled to the at least one transport stream generator and the plurality of encoding units, the session manager being operative to manage the operation of the plurality of encoding units and the at least one transport stream generator and to service demands of each distribution node of the distribution system and a bandwidth manager, coupled to the at least one transport stream generator for monitoring resources usage and availability for encoding by the plurality of encoding units, the bandwidth manager, in response to a demand received from a node of the distribution system, obtains information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams being transmitted to the distribution node to service the demand and communicates the obtained information to the session manager for servicing the demand, wherein the session manager controls the at least one transport stream generator to dynamically adjust the number of transport streams generated based on the obtained information received from the bandwidth manager. Independent claims 18 and 20 include similar elements.

In contrast Eyer describes a system for transmitting and receiving IPG data via satellite paths. Data, including IPG data, is provided to a MUX/modulator encoder 100,

140. The MUX/modulator encoder 100, 140 includes an IPG translator 225, a multiplexor and N encoders 220-230.

However, Eyer discloses that all Global and Local IPG data are transmitted to a satellite transmitter, where all Global and Local IPG data is then transmitted to a receiver. Bundle numbers are provided for each IPG data bundle. IPG data bundles are arranged by global IPG and regional IPG. In addition to transmitted all Global and Local IPG data, global programming services, channel maps and other configuration data are transmitted to the receiver at the integrated receiver-decoder (IRD).

At a CATV, global and local programming services are received. The global and local programming services are provided to the IRD through the distribution network of the CATV system.

The IRD, having received all Global and Local IPG data from the satellite distributor, filters appropriate IPG to be provided to a display according to the bundle numbers. Without the bundle numbers, the IRD can not distinguish between two data blocks of the same type and time slot, and would want to discard one as a duplicate.

Thus, the bundle numbers allows all IPG data to be multicast addressed to all IRDs. Eyer discloses that all the IPG data may be associated with a single PID, or alternatively, all regional IPG data may be provided using a PID for each region.

Nevertheless, the IRD of Eyer receives all Global and Local IPG data. Thus, Eyer fails to disclose, teach or suggest that guide streams, video streams, audio streams and data streams are provided to transport streams generator at a headend, wherein each transport stream generator generates transports streams customized for the node that a transport stream generator services.

Thus, Eyer routes all Global and Local IPG data to every IRD in contrast to generating customized transport streams for each node of a distribution network.

Eyer further fails to disclose the plurality of video inputs associated with IPG pages include a guide portion and a video portion. Instead, Eyer merely discloses IPG data including global data is provided in a stream for television decoders. Thus, Eyer fails to suggest receiving receive a video stream associated with an IPG page.

Eyer also fails to suggest a session manager for managing at least one transport stream generator, wherein each transport stream generator services a single node in the distribution network. Rather, Eyer discloses using a multicast of data to every IRD.

Eyer also fails to suggest a bandwidth manager, coupled to the at least one transport stream generator for obtaining information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams or that communicates the obtained information to the session manager for the session manager to dynamically adjust the number of transport streams generated based on the obtained information received from the bandwidth manager. Eyer simply fails to mention dynamically adjusting the number of transport streams generated based on the obtained information received from the bandwidth manager.

Accordingly, Eyer fails to disclose, teach or suggest the invention as defined in independent claims 1, 18 and 20, as amended.

Robinett fails to overcome the deficiencies of Eyer. Robinett is relied upon for disclosing that obtaining of information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams. However, Robinett merely

discloses a controller that maintains a bit rate of a transport stream by managing null and non-null packets in a transport stream.

Thus, Robinett fails to disclose, teach or suggest a bandwidth manager, coupled to the at least one transport stream generator for obtaining information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams or that communicates the obtained information to the session manager for the session manager to dynamically adjust the number of transport streams generated based on the obtained information received from the bandwidth manager.

Rather, Robinett merely describes variably compressing program data bearing transport packets.

Robinett further fails to disclose, teach or suggest that guide streams, video streams, audio streams and data streams are provided to transport streams generator at a headend, wherein each transport stream generator generates transports streams customized for the node that a transport stream generator services. Rather, Robinett merely describes how null transport packets are selectively replaced with another non-null data bearing transport packet.

Robinett further fails to disclose the plurality of video inputs associated with IPG pages include a guide portion and a video portion. Instead, Robinett focuses on bandwidth optimization.

Robinett also fails to suggest a session manager for managing at least one transport stream generator, wherein each transport stream generator services a single node in the distribution network. Robinett does not mention a session manager for managing at least one transport stream generator. Robinett further fails to disclose,

teach or suggest that each transport stream generator services a single node in the distribution network.

Thus, Eyer and Robinett, alone or in combination, fail to disclose, teach or suggest the invention as defined in independent claims 1, 18 and 20, as amended.

Hendricks fails to overcome the deficiencies of Eyer and Robinett. Hendricks is merely cited for disclosing monitoring resources usage and availability for encoding by the encoders. Applicants respectfully submit, however, that Hendricks discloses a cable headend 208 that performs two primary functions. First, the cable headend 208 acts as a distribution center, or signal processor, by relaying the program signal to the set top terminal 220 in each subscriber's home. In addition, the cable headend 208 acts as a network controller 214 by receiving information from each set top terminal 220 and passing such information on to an information gathering site such as the operations center 202.

Hendricks merely describes that during commercial breaks in the television programs, advertisements, which are also broadcast on the program channel, are displayed. However, Hendricks further discloses that additional feeder channels carry alternate advertising that may be better suited for certain viewing audiences. Thus, according to Hendricks, the operations center or the cable headend generate a group assignment plan that assigns the television terminals to groups, based on factors such as area of dominant influence and household income. A switching plan is then generated that instructs the television terminals to remain with the program channel or to switch to one of the alternate feeder channels during the program breaks.

Accordingly, Hendricks fails to disclose, teach or suggest a bandwidth manager, coupled to the at least one transport stream generator for obtaining information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams or that communicates the obtained information to the session manager for the session manager to dynamically adjust the number of transport streams generated based on the obtained information received from the bandwidth manager.

Hendricks further fails to disclose, teach or suggest that guide streams, video streams, audio streams and data streams are provided to transport streams generator at a headend, wherein each transport stream generator generates transports streams customized for the node that a transport stream generator services. Rather, Hendricks merely describes providing an alternative channel for selected advertisements that have been determined to be of interest to different groups of users.

Hendricks further fails to disclose the plurality of video inputs associated with IPG pages include a guide portion and a video portion. Hendricks also fails to suggest a session manager for managing at least one transport stream generator, wherein each transport stream generator services a single node in the distribution network. Hendricks does not mention a session manager for managing at least one transport stream generator. Hendricks further fails to disclose, teach or suggest that each transport stream generator services a single node in the distribution network.

Thus, Eyer, Robinett and Hendricks, alone or in combination, fail to disclose, teach or suggest the invention as defined in independent claims 1, 18 and 20, as amended.

McLaren fails to overcome the deficiencies of Eyer, Robinett and Hendricks.

McLaren is merely cited as disclosing a slice-based encoding scheme and a picture-based encoding scheme. Thus, McLaren fails to disclose, teach or suggest a bandwidth manager, coupled to the at least one transport stream generator for obtaining information regarding whether sufficient bandwidth and PIDs are available in the one or more transport streams or that communicates the obtained information to the session manager for the session manager to dynamically adjust the number of transport streams generated based on the obtained information received from the bandwidth manager.

McLaren further fails to disclose, teach or suggest that guide streams, video streams, audio streams and data streams are provided to transport streams generator at a headend, wherein each transport stream generator generates transports streams customized for the node that a transport stream generator services. Rather, McLaren merely describes an encoding scheme.

McLaren further fails to disclose the plurality of video inputs associated with IPG pages include a guide portion and a video portion. McLaren also fails to suggest a session manager for managing at least one transport stream generator, wherein each transport stream generator services a single node in the distribution network. McLaren does not mention a session manager for managing at least one transport stream generator. McLaren further fails to disclose, teach or suggest that each transport stream generator services a single node in the distribution network.

Thus, Eyer, Robinett, Hendricks and McLaren, alone or in combination, fail to disclose, teach or suggest the invention as defined in independent claims 1, 18 and 20.

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Dependent claims 3, 5-17 and 21-23 are also patentable over the references, because they incorporate all of the limitations of the corresponding independent claims 1 and 20, respectively. Further dependent claims 3, 5-17 and 21-23 recite additional novel elements and limitations. Applicants reserve the right to argue independently the patentability of these additional novel aspects. Therefore, Applicants respectfully submit that dependent claims 3, 5-17 and 21-23 are patentable over the cited references.

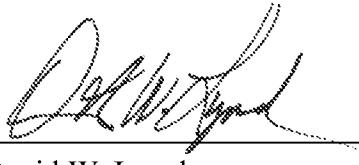
On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicants, David W. Lynch, at 865-380-5976. If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 13-2725 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

Merchant & Gould
P.O. Box 2903
Minneapolis, MN 55402-0903
(865) 380-5976



By: 
Name: David W. Lynch
Reg. No.: 36,204